

CLAIMS

We claim:

- 1 1. A routing protocol for mobile networks comprising a plurality of
2 mobile nodes, comprising the steps of:
3 assigning each of a plurality of mobile nodes an identifier (ID);
4 each of said nodes storing a list of said identifiers of neighboring nodes
5 in a one-hop region to create a one-hop neighbor list;
6 exchanging said one-hop neighbor list with one-hop neighbors;
7 creating a two-hop neighbor list from said exchanged one-hop
8 neighbor lists;
9 selecting a subset of said one-hop neighbors, such that the subset can
10 directly compute a route to all two-hop neighbors when forwarding broadcast
11 traffic;
12 when forwarding broadcast traffic to a destination node beyond said
13 two-hop neighbors of a source node:
14 forwarding a search request packet to said one hop neighbors until said
15 destination node is present in said two-hop neighbor list;
16 storing a reverse path tracking a path of said request packet;
17 forwarding a route return packet via said reverse path to said source
18 node to compute a path to said destination node.
- 1 2. A routing protocol for mobile networks as recited in claim 1 wherein when
2 a node moves to a new neighborhood one of said one-hop neighbors will
3 recognize a link failure and notify its one-hop neighbors to update their
4 respective one-hop neighbor lists.
- 1 3. A routing protocol for mobile networks as recited in claim 1 wherein when
2 a node monitors overheard packets for its own destination address to receive

3 said overheard packets early.

1 4. A method of routing traffic packets through a mobile network comprising a
2 plurality of mobile nodes, comprising the steps of:

3 each node creating a one-hop node list, where said one-hop node list
4 comprises all other nodes within direct radio range;

5 exchanging said one-hop node list with each of said other nodes on
6 said one-hop node list to create a two-hop node list;

7 selecting a subset of nodes on said one-hop list, such that the subset
8 provides a path to all nodes on said two-hop node list;

9 computing a route between a source node and a destination node
10 directly from said source node's one-hop neighbor list and said two-hop
11 neighbor list when said destination node is within two-hops of said source
12 node; and

13 said source node flooding only said subset nodes when searching for a
14 route to a destination node beyond two-hops of said source node.

1 5. A method of routing traffic packets through a mobile network comprising a
2 plurality of mobile nodes, comprising the steps of:

3 assigning each of a plurality of mobile nodes an identifier (ID);

4 each of said nodes storing a list of said identifiers of neighboring nodes
5 in a one-hop region to create a one-hop neighbor list;

6 exchanging said one-hop neighbor list with one-hop neighbors;

7 creating a two-hop neighbor list from said exchanged one-hop
8 neighbor lists; and

9 selecting a subset of said one-hop neighbors, such that the subset can
10 directly compute a route to all two-hop neighbors when forwarding broadcast
11 traffic.

1 6. A method of routing traffic packets through a mobile network as recited in

- 2 claim 5 further comprising the step of discovering outside of said two-hop
- 3 region by flooding.